ECOLOGICAL APPRAISAL REPORT:

23a Hampton Road, Teddington, TW11 0JN

For: **Fletcher Crane Architects**

www.fletchercranearchitects.com

Issued by: **Wychwood Environmental Ltd**

www.wychwoodenvironmental.com

August 2023

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EXECUTIVE SUMMARY

Proposed development

- Development proposals currently involve the demolition of the existing dwelling and replaced with a new house.

Impacts

- The proposed development has low potential to impact foraging and commuting bats.
- The proposed development has very low potential to impact common reptiles and amphibians.
- The site supports habitats supports habitats of low ecological value.

Further recommended surveys

- No further surveys are recommended in relation to habitats or protected species.

Proposed mitigation

- Mitigation to reduce the impacts of artificial lighting upon foraging bats is detailed.
- Mitigation to reduce impacts to nesting birds is detailed.
- Measures to ensure reptiles and amphibians are not harmed during construction are provided.
- Measures to ensure hedgehogs, foxes and other mammals are not harmed during construction are provided.

Enhancements

- It is suggested that supplementary native species planting is undertaken within the landscaping plan, particularly the planting of a native species hedging along boundaries that will increase species diversity on site post-development.

Report completed by: Andrew Perkin PhD

Verified by: Dr. Craig Turner MSc MCIEEM FRGS FLS

Date of issue: 10th August 2023

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1.0 INTRODUCTION

1.1 Wychwood Environmental Ltd was instructed by Fletcher Crane Architects, to undertake a Preliminary Ecological Assessment to highlight the possible presence of protected species (e.g. bats, badgers, great crested newts, reptiles, and breeding birds) and/or habitat(s) of ecological/conservation value on the proposed development site at a parcel of land located at: 23a Hampton Road, Teddington, TW11 0JN.

1.2 Surveys are necessary to collect information on habitats/protected species to provide necessary guidance and mitigation advice to ensure that no valuable habitats/protected species are adversely affected by the proposed development.

1.3 The survey was completed to inform the Local Planning Authority (LPA) of any material impacts resulting from the proposed development and to ensure compliance with the requirements of the Natural Environment and Rural Communities (NERC) Act (2006) (Section 40) and the Government Circular: Biodiversity and Geological Conservation – Statutory obligations and their impact within the Planning System (ODPM 06/2005, Defra 01/2005). The legislation relating to protected species is detailed in Annex 1.

1.4 Development proposals involve the demolition of the existing dwelling and replacement with a new dwelling. The location of the site is shown in Figures 1 - 4 (Annex 2). Full details of the proposed development are provided in the planning submission.

1.5 Section two of this report describes the methodologies used for survey work. Section three provides the results of these surveys, sections four and five provide discussion and implications for development, with further surveys and mitigation covered in section six and enhancement recommendations are made in section seven.

2.0 METHODOLOGY

Habitat Survey

2.1 A Preliminary Ecological Assessment (PEA) of the site was undertaken, following standard extended Phase 1 habitat survey protocols (IEA, 1995), by Andrew Perkin PhD on 21st July 2023. This involved systematically walking over the site and classifying each parcel of land based on vegetation, into one of approximately 90 habitat types (JNCC, 2010).

2.2 A search for any invasive non-native species, as listed under Schedule 9 of the Wildlife and Countryside Act 1981, as amended,[1] such as Japanese knotweed (*Fallopia japonica*) was also carried out.

2.3 Any habitats or features of interest and any sightings, signs or evidence of protected or notable fauna or any potential habitats suitable for such species, were assessed as detailed below:

- The suitability of habitats was assessed for amphibians (including great crested newts, *Triturus cristatus*)[2];
- The suitability of habitats was assessed[3] for badgers (*Meles meles*) and any evidence including setts, dung pits/ latrines, badger paths, hairs, bedding, footprints and scratching of trees/ shrubs was noted;
- The suitability of the habitats was assessed for dormice (*Muscardinus avellanarius*);
- The suitability of the habitats was assessed for hedgehog (*Erinaceus europaeus*);
- Buildings with features potentially suitable for roosting bats were assessed following best practice guidelines as outlined by the survey techniques published by the Bat Conservation Trust (BCT)[4] and Mitchell-Jones and McLeish (2004) [5]. Trees within the development area were also assessed for their potential to support roosting bats (following BCT protocols).
- Landscape features such as hedgerows, trees and shrubs were also assessed for their potential suitability for bat foraging and commuting;

[1] http://archive.defra.gov.uk/wildlife-pets/wildlife/management/non-native/documents/schedule9-list.pdf
[2] Oldham R.S., Keeble J., Swan M.J.S. & Jeffcote M. (2000). Evaluating the suitability of habitat for the Great Crested Newt (*Triturus cristatus*). Herpetological Journal 10(4), 143-155.
[3] Badger survey followed guidelines recommended in Harris *et al*. (1989).
[4] Collins J (ed.) (2016) Bat Surveys for Professional Ecologists: Good Practice Guidelines (3rd edn) (published by Bat Conservation Trust, London).
[5] Mitchell-Jones A J (2004). *Bat mitigation guidelines.* English Nature.

- The suitability of habitats was assessed for nesting / roosting birds.
- The suitability of habitats was assessed for reptiles.
- The suitability of habitats was assessed for water vole (Arvicola amphibius) and otters (Lutra lutra).

Desk Study

2.4 The Internet database MAGIC (Multi-Agency Geographic Information for the Countryside[6]) was searched for any areas with statutory designations within a 2km radius of the site.

2.5 Noting the scope and scale of the proposed development, a detailed species-level desk study was not deemed necessary, due to the scale of likely impacts.

Survey Limitations

2.6 An initial site assessment such as this is only able to act like a 'snapshot' to record any flora or fauna that is present at the time of the survey. It is therefore possible that some species may not have been present during the survey but may be evident at other times of the year. For this reason, habitats were assessed for their potential to support some species, even where no direct evidence (such as droppings) has been found.

Baseline Evaluation Criteria

2.7 Based on the desk study and field survey results, an ecological evaluation of the site was undertaken using a combination of evaluation criteria for habitats and species, following the general framework provided by CIEEM[7] (Table 1).

2.8 Where relevant the evaluation was made with reference to the statutory protection afforded to species and habitats. Legal protection does not always correspond to conservation value. Some species (e.g. badgers) are protected for reasons of animal welfare rather than conservation. Others are of national conservation value but are not protected by law (e.g. some Red Data Book species and UK BAP species).

[6] https://magic.defra.gov.uk
[7] CIEEM (2017). Guidelines for Preliminary Ecological Appraisal (PEA).

Table 1. Ecological value criteria used in the ecological evaluation, as outlined by CIEEM.

Ecological Value	**Description and Examples**
High	Habitats or features that have high importance for nature conservation, such as statutory designated nature conservation sites of international or national importance or sites maintaining viable populations of species of international or national importance (e.g. Red Data Book species, European protected species).
Medium	Sites designated at a county or district level, e.g. Local Wildlife Site (LWS), ancient woodland site, ecologically 'important' hedgerows or ecological features that are notable within the context of a region, county or district (e.g. a viable area of a Priority Habitat on the county BAP or a site that supports a viable population of a county BAP species).
Low	Sites of nature conservation value within the context of a parish or neighbourhood, low-grade common habitats, such as arable fields and improved grasslands and sites supporting common, widespread species.

3.0 RESULTS

Desk Study

Designated Sites

3.1 There are two statutory designated sites within 2km of the application site. The closest designated site is Bushy and Home Park Site of Special Scientific Interest (SSSI) which 0.4km south of the site. Bushy Park and Home Park SSSI is of special interest for its nationally important saproxylic (dead and decaying wood associated) invertebrate assemblage, population of veteran trees and acid grassland communities. These features occur within and are supported by the wider habitat mosaic. Lowland dry acid grassland communities present include National Vegetation Classification (NVC) types U1 sheep's fescue *Festuca ovina*, common bent *Agrostis capillaris*, sheep's sorrel *Rumex acetosella*, sheep's fescue Festuca ovina, common bent *Agrostis capillaris*, heath bedstraw *Galium saxatile* grassland community which are found within the grassland mosaic of the site.

3.2 Ham Lands Local Nature Reserve (LNR) is located 1.4km to the northwest of the site. Ham Lands local nature reserve is an extensive area of grassland and scrub with abundant wildlife. The site was once extensively excavated for gravel, then back-filled over time with a variety of soil types from all over London. This has created a unique mosaic of different vegetation types attracting many butterfly and bird species. In spring, the site is full of hawthorn blossom and in the summer, the meadows support hundreds of wildflowers.

3.3 There are several non-statutory sites within 2km of the site. There are areas of Woodpasture and Parkland BAP Priority Habitat (England) mostly found within Bushy and Home Park to the south. The nature of the development and the location of the application site indicate that the proposals are unlikely to have an impact on any statutory or non-statutory designated sites.

Protected Species

3.4 Based on known roosts from granted European Protected Species Mitigation licenses[8] for bats, there are two registered licenses within 2km to the site (Figure 3) for: common pipistrelle *Pipistrellus pipistrellus*, soprano pipistrelle *P. pygmaeus,* Natterer's bat (Myotis nattereri), and brown long-eared bat *Plecotus auritus* between 2014 and 2018. Licences were granted for

[8] https://magic.defra.gov.uk/MagicMap.aspx

the destruction of resting places. The closest licence from a nearby property approximately 1.8m east of the site. Based on known Great Crested Newt Class Survey Licence Returns (England) there are no registered licenses within 2km to the site (Figure 3).

Site Location Description

3.5 The site is located within the southwest London borough of Teddinton (see Figures 1 – 2, & 4; Annex 2). The application site is located within dense suburban housing. In the immediate area there are small to medium sized detached and semidetached and houses with gardens, and flats. In the wider area there are retail, light industrial, public buildings, a golf course and Bushy Park to the southwest and the River Thames to the north east.

Habitat survey

3.6 The habitats recorded on the site are shown in Photos 1-6 (Annex 2) and Figure 5 (Annex 2). Habitats that would potentially be impacted by the proposed development consist of the following:

- Buildings (J3.6)
- Hardstanding
- Porous membrane and gravel
- Improved amenity grassland (J1.2)
- Planted shrubs
- Pond

3.7 The current application site consists of a house with a small garden at the front and back with a driveway and three sheds (Figure 5). The involve the demolition of the existing dwelling and replaced with a new house (Figures 4a-c).

Hardstanding

3.8 There are hardstanding patio areas at the front and the back of the house and a driveway. (Figure 5 Photographs 1 - 6, Annex 2).

Porous membrane and gravel

3.9 The garden at the rear of the house has an area covered by a porous membrane and gravel (Figure 5 Photographs 2 -4, Annex 2).

Amenity Grassland

3.10 There is a small area of amenity grassland in the rear garden (Figure 5, Annex 2, Photo 2-4).

Pond

3.11 There is a small pond at the front of the house (Figure 5 Annex 2, Photo 6) which were assessed for great crested newt potential (Figure 6).

3.12 Overall, the site habitat is considered to be of low ecological value, with habitats that are common and widespread and which were generally, poorly connected to areas of higher ecological value.

Protected Species Survey

Bats

3.13 The site has potential to support foraging and commuting bats throughout the site. The rear and front garden of the property provide some foraging and commuting potential. Overall, the habitats on site had a low potential to support foraging and commuting bats. No further activity surveys are required.

3.14 There is one building on site and three garden shed in site (see Figure 5, Annex 2). Where accessible, each was subject to a detailed external and internal inspection (following BCT guidelines). Details of the findings of the inspections and photographs can be found in Table 2 in Annex 2.

3.15 The key findings from the inspections were that the main house has negligible potential internally to support roof void dwelling bat species. Externally, it has negligible potential to support other crevice dwelling species (e.g. pipistrelles).

3.16 The garden sheds were deemed negligible have negligible potential to support roosting bats.

Amphibians and Reptiles

3.17 The site consists of hardstanding and with limited structure or cover that could provide habitat for amphibians and reptiles. There is a small lake in Bushy Park 500m to the southwest that may be suitable to support breeding great crested newts (GCN) but there very limited

connectivity due the density of intervening buildings and roads. The small pond on site assessed as 'poor' for great crested newt potential (Figure 6). The lack of suitable terrestrial habitat present on site and the provision of more suitable habitat in close proximity to the pond indicate that the development proposals are unlikely to impact this species. No additional surveys are recommended for great crested newts or reptiles.

Nesting birds

3.18 The shrubs and climbers in northeast and southwest of the plot offer potential nesting habitats for a number of common garden/woodland bird species during the spring/summer months. Based on the lack of impacts and scale of the habitat, no further bird surveys are proposed.

Dormice

3.19 The habitats that will be impacted by the proposed development had no suitability to support dormice. No further surveys for dormice are required as long as the hedgerows are not impacted by the proposals.

Other Mammals

3.20 The site has low potential to be used by foraging and commuting hedgehogs, and foxes. No known evidence of any other mammals was found during the site survey.

4.0 ECOLOGICAL EVALUATION

Designated Nature Conservation Sites

4.1 There are two statutory sites within 2km of the site. Bushy and Home Park Site of Special Scientific Interest (SSSI) which 0.4km south of the site. There are areas of Woodpasture and Parkland BAP Priority Habitat (England) mostly found within Bushy and Home Park 400m to the south. Ham Lands LNR lies 1.2km to the north west. The nature of the development and the location of the application site indicate that the proposals are unlikely to have an impact on any statutory or non-statutory designated sites.

4.2 Based on known roosts from granted European Protected Species Mitigation licenses[9] for bats, there are nine registered licenses within 2km to the site (Figure 3) for: common pipistrelle *Pipistrellus pipistrellus*, Natterer's bat (Myotis nattereri), and brown long-eared bat *Plecotus auritus* between 2013 and 2028. Licences were granted for the destruction of resting places. The closest licence from a nearby property approximately 350m southwest of the site. Based on known Great Crested Newt Class Survey Licence Returns (England) there are seven registered licenses within 2km to the site (Figure 3). The closest licence from a nearby property approximately 360m southwest of the site.

Habitats

4.3 The site supports the following dominant habitats: buildings, hardstanding, porous membrane with gravel, improved amenity grassland, a pond (Annex 2, Photos 1-6, Figure 5). The habitats within the site are considered to be of **low** ecological value.

Protected Species

Flora

4.4 None of the species recorded during the survey are specifically protected by the Wildlife and Countryside Act 1981 (as amended) or considered nationally or locally rare (see Preston et al., 2002[10]). Also, none of the species recorded are listed as Species of Principal Biological

[9] https://magic.defra.gov.uk/MagicMap.aspx

[10] Preston, C.D., Telfer, M.G., Arnold, H.R., Carey, P.D., Cooper, J.M., Dines, T.D., Pearman, D.A., Roy, D.B. & Smart, S.M. 2002. *The changing flora of the UK*. Department for Environment, Food and Rural Affairs, London.

Importance on Section 41 of the NERC Act 2006 or as Priority Species on the national BAP (UK BAP, 2007[11]).

4.5 Mitigation and enhancements for trees, general flora and legally controlled species are recommended in Sections 6 and 7.

Fauna

4.6 The proposed development site as a whole was assessed as having low potential to support foraging and commuting bats with a small number of trees present on and close to the site. The site is connected to a wider mosaic of habitat providing good foraging and commuting habitat for bats present in the local area. The main house has negligible bat roost potential whilst the garden shed had negligible bat roosting potential.

4.7 The areas of the site that will be impacted by the proposals were assessed as having poor potential to support greater crested newts (Figure 6) and other common species of reptiles and amphibians them due to a lack of suitable habitat.

4.8 There was no evidence that this site was being used by badgers with no evidence of badgers found including the presence of fresh latrines, badger paths and push throughs found during the survey.

4.9 The site had no suitability to support water voles, otters or dormice.

4.10 The planted shrubs and climber in the northeast and southwest of the plot is considered potentially suitable for supporting nesting birds during the spring/summer.

Invasive species

4.11 No invasive species were identified during the walkover survey.

[11] UKBAP (2007) Report on the Species and Habitat Review: Report by the Biodiversity Reporting and Information Group (BRIG) to the UK Standing Committee, June 2007

5.0 RECOMMENDATIONS

5.1 Wherever possible, negative ecological impacts should be avoided. If this is unavoidable then mitigation and compensation measures will be proposed for adverse ecological effects. In addition, it is best practice to seek positive biodiversity benefits through enhancement measures, in particular with regard to Priority Habitats and Species listed on the national and local Biodiversity Action Plans and the NERC Act 2006.

5.2 CIEEM (2017)[12] endorses the following principle, recommended by the Royal Town Planning Institute (2019)[13] for optimising the biodiversity outcomes of planning decisions.

5.3 New benefits: seek to provide net benefits for biodiversity over and above requirements for mitigation and compensation.

5.4 The provision of compensation/enhancements helps local planning authorities in meeting requirements as stipulated under the National Planning Policy Framework[14], which states that sustainable development should seek to achieve net gains in biodiversity for nature.

[12] *CIEEM (2017) Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater and Coastal, 2nd edition.* Chartered Institute of Ecology and Environmental Management, Winchester.
[13] https://www.rtpi.org.uk/practice/2019/november/biodiversity-in-planning/
[14] National Planning Policy Framework. (2012) Department of Communities and Local Government.

6.0 MITIGATION & FURTHER SURVEY

Habitat

6.1 No further habitat surveys are required. Best practice should be followed (i.e. S5837:2012 Trees in Relation to design, demolition and construction – Recommendations) to ensure individual trees, including those adjacent to the site, that are to be retained are not adversely affected and must be protected from direct impact and from severance or asphyxiation of the roots. Standard pollution prevention measures should be implemented such as dust suppression measures to ensure that the construction works do not impact any habitats outside of the work area.

6.2 Any planting within the site as part of the proposed development should use native tree and hedgerow species that will enhance the biodiversity of the site. The existing hedge should be retained where possible within the design. Where any hedges cannot be retained within the design, new hedgerow planting using a species rich native mix of species, should be included within the landscaping proposals. See Annex 4 for details of planting that will enhance the site for foraging bats and other wildlife.

Bats

6.3 The buildings affected by the proposal have negligible potential to support roosting bats. No further surveys are required.

6.4 If any artificial lighting is proposed, this should be managed in a way whereby it will not impact upon foraging bats within the area. Annex 3 details the Bat Conservation Trust guidelines on lighting mitigation. External lighting, if required, should be positioned low to the ground, with downward facing baffles and set on timers or motion sensors. Warm white LED lights have the least impact upon bats. Lighting should follow current BCT/ILP guidance[15].

Breeding birds

6.5 The planted beech hedge on site potentially supports several nesting bird species. Although there no plans currently to remove any bordering trees or hedges, it is recommended that any removal of suitable nesting habitat occurs outside the bird nesting season, which is generally accepted to extend from March - August inclusive (although dates vary by species and are

[15] https://www.theilp.org.uk/documents/guidance-note-8-bats-and-artificial-lighting/

subject to prevailing weather conditions). If this is not possible the area to be removed should be inspected for evidence of nesting activity by a suitably experienced ecologist no more than 24 hours in advance of clearance. If this identifies any nesting activity the habitat feature should be left undisturbed until nesting ceases. If any vegetation removal is undertaken on site during the bird-nesting season, all resultant brash should be immediately removed from the site to prevent birds from nesting in it.

Reptiles and amphibians

6.6 The area where the development occurs (on the amenity grassland) has negligible potential to support reptiles or amphibians. The bordering vegetation in the hedgelines have low potential to support reptiles or amphibians, but this area is not proposed to be impacted by the project. The pond is evaluated as having 'poor' habitat potential for greater crested newts and the surrounding habitats have very little connectivity to other potential sites such as ponds and lakes. The hedgerows and bordering habitats identified have low potential to be used by common reptiles and amphibians. Given the widespread distribution of reptiles and amphibians such as slow worms and grass snakes, and the presence of surrounding suitable habitat, it is likely that they are using the site (in low numbers). Taking account of the small footprint of the proposed building project, no formal surveys are required (on the basis that suitable habitat is retained) unless requested by the local authority. Instead, it is recommended that reasonable avoidance measures (RAMs) and habitat mitigation measures be included within the site Biodiversity Enhancements and Mitigation Plan (BEMP). Measures should include:

- Toolbox talks to raise awareness prior to any clearance and during construction;
- Works likely to disturb hibernating reptiles and amphibians should be timed outside of November to March inclusive;
- Piles of deadwood, log piles, compost heaps, brash, scrub, hedge should be checked by hand immediately prior to being cut/moved;
- Hazards such as open holes, pits, ditches and drains should be covered at night or fitted with ramps (at a reasonable angle) to allow animals to escape;
- Site should have a zero-litter policy to prevent animals becoming trapped in litter;
- If any reptiles and amphibians are found they should be moved outside the working area to suitable alternative habitat within the wider plot. Wychwood Environmental can be contacted for advice and guidance.

Dormice

6.7 The site was considered to have negligible potential to support dormice. No further survey work is recommended.

Other Mammals

6.8 The site has potential to support foraging and commuting mammals such as hedgehogs, and foxes. It is recommended that any log and brash piles are dismantled by hand to ensure that no hedgehogs are harmed during site clearance. It is also recommended that during construction all deep trenches and excavations are covered overnight to prevent any animals falling in and not being able to get out. It is recommended that the boundary treatment of the site allow access for local wildlife to continue to move across the site.

7.0 ENHANCEMENTS

7.1 In line with local and national policy (NPPF 2021[16]), and the requirement to deliver a 10% biodiversity net gain as detailed in the Environment Act 2021[17], the new development should seek to provide biodiversity enhancements. The following suggestions would enhance the site for wildlife.

Shrub/Tree Planting

7.2 To compensate for any loss of existing vegetation it is recommend that new native hedgerows and trees (of local provenance) are planted along site boundaries where possible. A list of native and non-native species that are beneficial to pollinating insects, produced by the Royal Horticultural Society, is provided in Annex 4.

Bird Boxes

7.3 Some nest boxes for different species of bird (sparrow, tits, woodpecker/starling and wren) should be erected around the site in areas of good cover. These can be placed on mature trees and/ or border areas of vegetation.

Bats

7.4 A guide to bat friendly gardening is provided in Annex 4. Consideration of the placement of bat boxes in the bordering trees should also be considered.

7.5 The biodiversity enhancements should be informed by all ecological surveys and could form part of a Biodiversity Enhancements and Mitigation Plan (BEMP), to be secured by an appropriate planning condition. This should ensure compliance with local and national policies, and relevant works on site would be overseen by an ECoW, as stated above.

[16] https://www.gov.uk/government/publications/national-planning-policy-framework--2
[17] https://www.legislation.gov.uk/ukpga/2021/30/contents/enacted

8.0 REFERENCES

Collins, J. (ed.) (2016) Bat Surveys for Professional Ecologists: Good Practice Guidelines (3rd edn). The Bat Conservation Trust, London.

Department of Communities and Local Government (March 2012) National Planning Policy Framework.

Institute of Environmental Assessment (1995) Guidelines for Baseline Ecological Assessment.

JNCC (2010) *Handbook for Phase 1 Habitat Survey: a technique for environmental audit.* JNCC, Peterborough.

MAGIC Site Check Report. Available: www.magic.gov.uk.

Mitchell-Jones, J. (2004) Bat Mitigation Guidelines. Natural England.

Mitchell-Jones, A.J. and Mc Leish, A.P. (2004) Bat Workers Manual. JNCC

Annex 1 – Protected Species Legislation.

Plants
All wild plants are protected against unauthorised removal or uprooting under Section 13 of the Wildlife and Countryside Act 1981 (as amended). Plants listed on Schedule 8 of the Act (e.g. triangular club rush and Deptford Pink) are afforded additional protection against picking, uprooting, destruction and sale. Bluebell is protected against sale only.

Amphibians (Common Species)
Common amphibian species (i.e. common frog, common toad, smooth newt and palmate newt) are afforded partial legal protection under UK legislation, i.e. Schedule 5, Section 9 (5) of the Wildlife and Countryside Act 1981 (as amended) and the Countryside and Rights of Way Act 2000. This legislation prohibits:

- sale
- transportation
- advertising for sale

Badgers
Badger is a widespread and generally common species. However, they are legally protected under The Protection of Badgers Act 1992, which is based primarily on the need to protect badgers from baiting and deliberate harm or injury. Under this legislation it is illegal to:

- Wilfully kill, injure, take, or cruelly ill-treat a badger, or attempt to do so
- Possess any dead badger or any part of, or anything derived from, a dead badger
- Intentionally or recklessly interfere with a sett by disturbing badgers whilst they are occupying a sett, damaging or destroying a sett, causing a dog to enter a sett, or obstructing access to it

A badger sett is defined in the legislation as "*any structure or place, which displays signs indicating current use by a badger*".

Bats
All bat species are afforded full protection under UK and European legislation, including the Wildlife and Countryside Act 1981 (as amended), the Countryside and Rights of Way Act 2000 and The Conservation of Habitats and Species Regulations 2017. Together, this legislation makes it illegal to:

- Intentionally or deliberately take, kill or injure a bat
- Damage, destroy or obstruct access to bat roosts
- Deliberately disturb bats

A bat roost is defined in the legislation as *"any structure or place which a bat uses for shelter or protection". Roosts are protected whether or not bats are present at the time.* If a development activity is likely to result in disturbance or killing of a bat, damage to its habitat or any of the other activities listed above, then a licence will usually be required from Natural England.

Birds
The bird breeding season generally lasts from early March to September for most species. All birds are protected under the Wildlife and Countryside Act (1981) (as amended) and the Countryside & Rights of Way Act 2000. This legislation makes it illegal, both intentionally and recklessly to:

- Kill, injure or take any wild bird;
- Take, damage or destroy the nest of any wild bird while it is being built or in use;
- Take or destroy the eggs of any wild bird; and
- Possess or control any wild bird or egg unless obtained legally.

Birds listed under Schedule 1 of the Wildlife and Countryside Act (1981) (as amended) (e.g. barn owl and kingfisher) are afforded additional protection, which includes makes it an offence to disturb a bird while it is nest building, or at a nest containing eggs or young, or disturb the dependent young of such a bird.

Great crested newts

Great crested newts and their habitat are afforded full protection under UK and European legislation, including the Wildlife and Countryside Act 1981 (as amended), the Countryside and Rights of Way Act 2000 and The Conservation of Habitats and Species Regulations 2017. This makes it is an offence to kill, injure or disturb great crested newts and to destroy any place used for rest or shelter by a newt. The great crested newt is also listed on Annexes II and IV of the EC Habitats Directive and Appendix II of the Bern Convention. If a development activity is likely to result in disturbance or killing of a great crested newt, damage to its habitat etc, then a licence will usually be required from Natural England.

Reptiles

There are six native species of reptiles in the UK, including the slow-worm (*Anguis fragilis*), viviparous lizard (*Zootoca vivipara*), grass snake (*Natrix natrix*) and adder (*Vipera berus*), smooth snake (*Coronella austriaca*) and sand lizard (*Lacerta agilis*), which are afforded varying degrees of protection under UK and European legislation.

Slow-worm, viviparous lizard, adder and grass snake are protected under Schedule 5, Section 9 (1 and 5) of the Wildlife and Countryside Act 1981 (as amended) and the Countryside & Rights of Way Act 2000 against deliberate or reckless killing and injuring and sale.

Otters

Great Otters are fully protected under the Habitats Regulations through their inclusion on Schedule 2. Regulation 41 prohibits:

- Deliberate killing, injuring or capturing of Schedule 2 species
- Damage or destruction of a breeding site or resting place
- Deliberate disturbance of otters as:
    - to impair their ability:
    - to survive, breed, or reproduce, or to rear or nurture young;
    - to hibernate or migrate
    - to affect significantly the local distribution or abundance of the species

Otters are also currently protected under the WCA through their inclusion on Schedule 5. Under this Act, they are additionally protected from

- Intentional or reckless disturbance (at any level)
- Intentional or reckless obstruction of access to any place of shelter or protection

Annex 2 – Plans, Figures and Photographs.

Figure 1 – Approximate location and boundary of the site (red outline). Image taken from Google Earth.

Figure 2 – Approximate location of the site (red outline) within the wider landscape. Image taken from Google Earth.

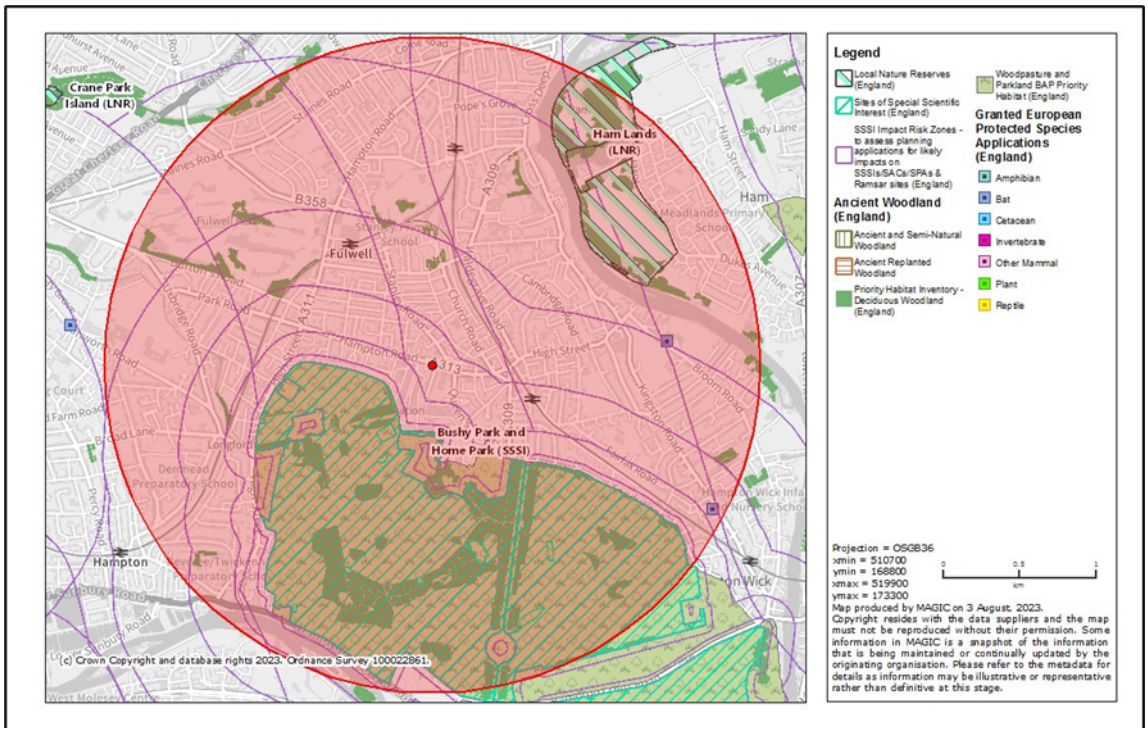

Figure 3 Location of statutory designated sites, ancient woodland and Granted European Protected Species Mitigation (EPSM) Licences within 2km of the site which are all bat licences (www.magic.gov.uk).

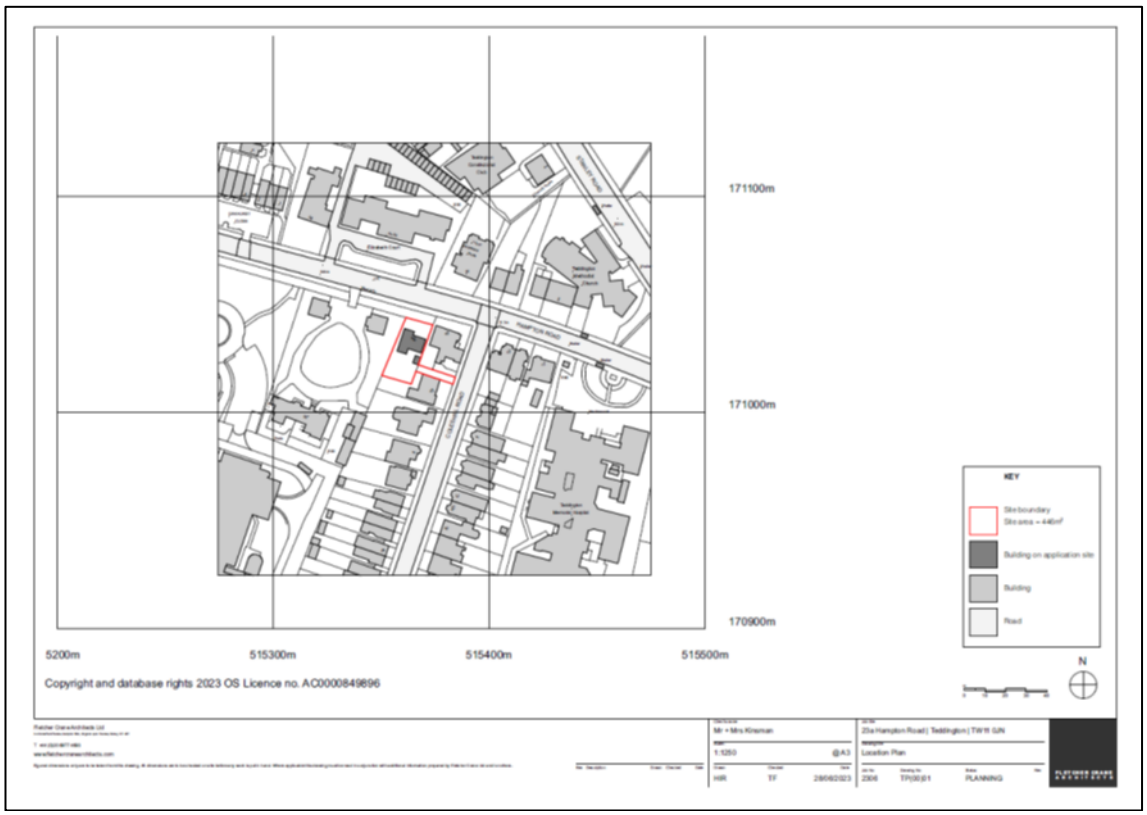

Figure 4a – Plan of the red line site boundary.

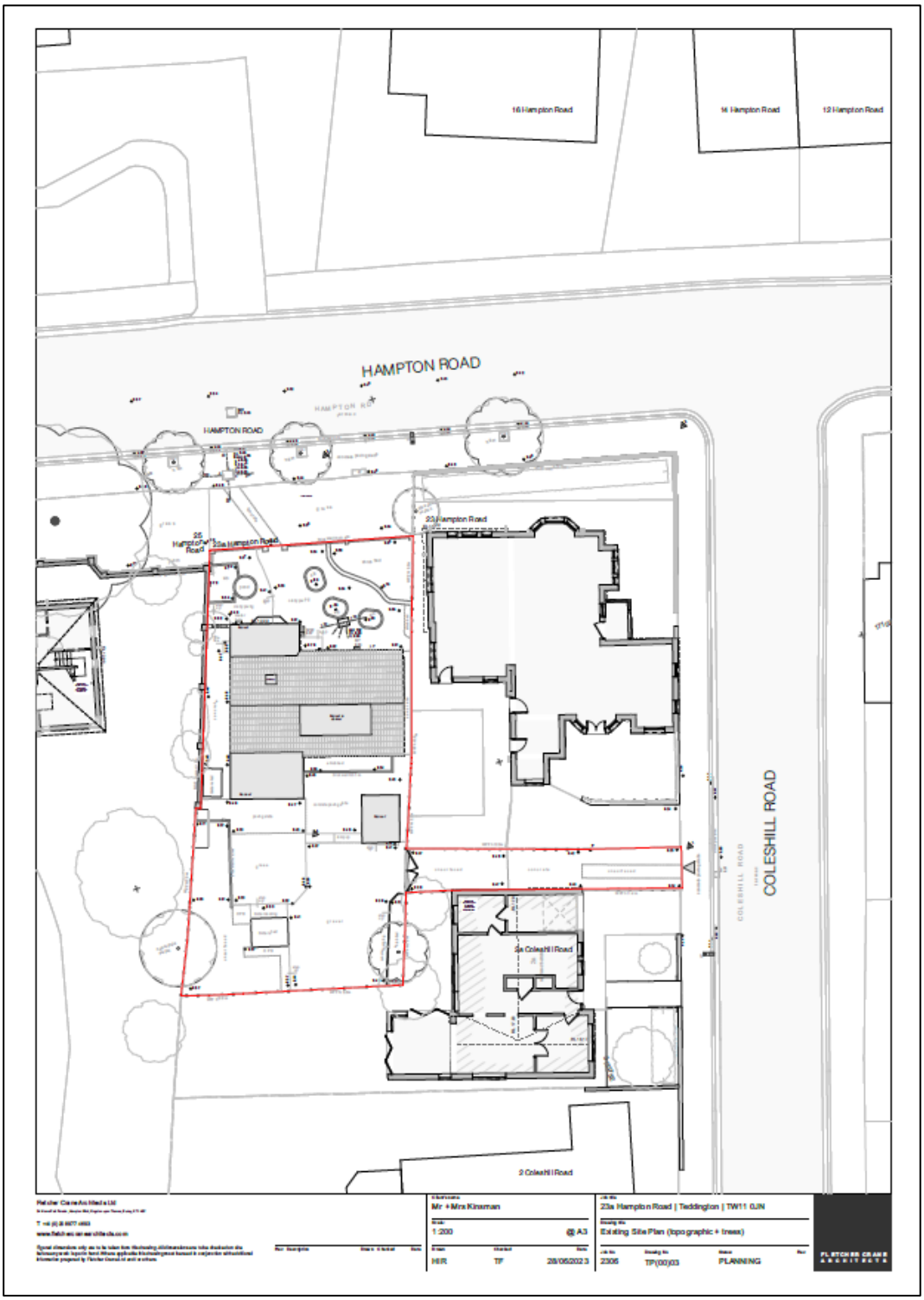

Figure 4b – The existing site plan.

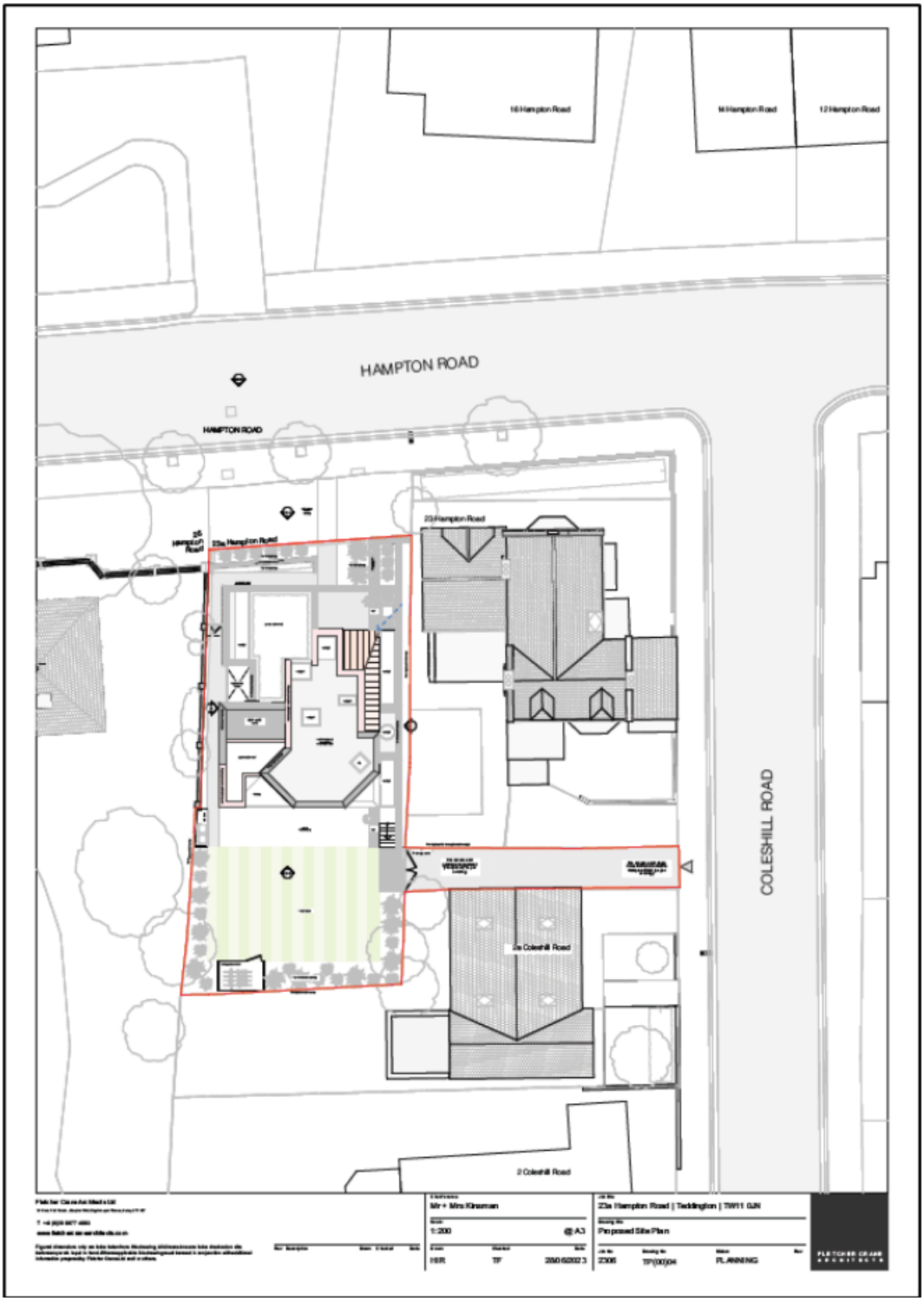

Figure 4c – The proposed site plan.

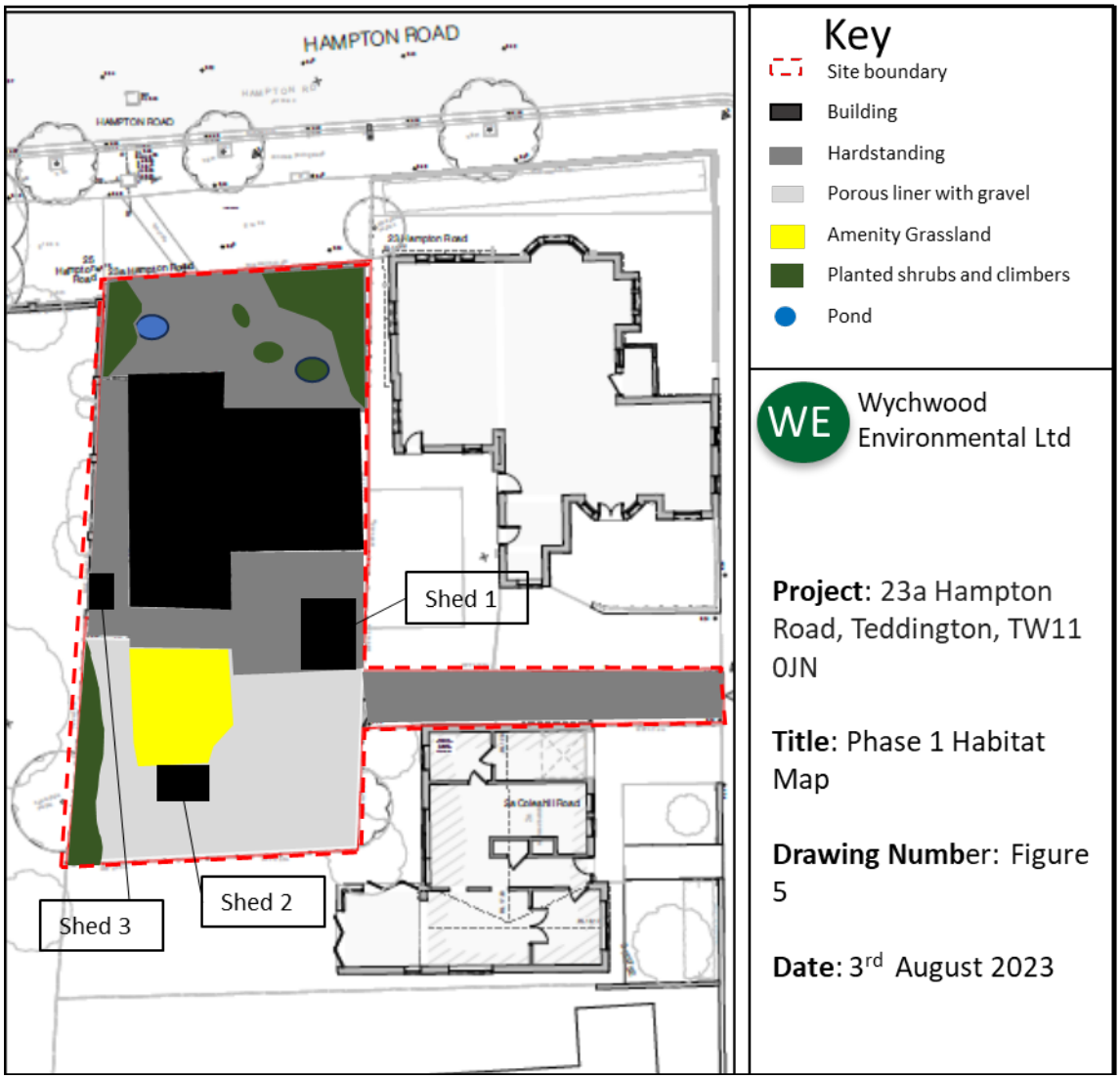

Figure 5 – Phase 1 habitat map of the site.

Wychwood Environmental Ltd
T: 07760234934; E: craig@wychwoodenvironmental.com

Photographs

Photo 1. The northern elevation. No external potential roost features for bats were found.

Photo 2. The northern elevation and garden shed 1. No external potential roost features for bats were found.

Photo 3. The southern elevation of the house and shed 2. No external potential roost features for bats were found.

Photo 4. The garden and garden shed 2.

Photo 5: The western elevation and garden shed 3. No external potential roost features for bats were found.

Photo 6: The garden pond at the front of the house. No other evidence (droppings) of bats was found

Great Crested Newt Survey	**1. Pond Details**
Project	**23a Hampton Road, Teddington, TW11 0JN**
Project number/reference	
Site	Pond at front of house.

Pond number/reference	
OS Grid reference	
Location details	**23a Hampton Road, Teddington, TW11 0JN**
Access instructions	

Landowner name	
Address/email	**23a Hampton Road, Teddington, TW11 0JN**
Telephone	

Habitat Suitability Index

				SI value
SI1.	Map location	**A/B/C**	A	1.00
SI2.	Surface area	**rectangle/ellipse/irregular**	ellipse	
		length (m)	1.5	
		width (m)	1.5	
		OR estimate (m^2) if irregular		
		area (m²) =	*1.76625*	0.00
SI3.	Desiccation rate	**never/rarely/sometimes/frequently**	rarely	1.00
SI4.	Water quality	**good/moderate/poor/bad**	moderate	0.67
SI5.	Shade	% of margin shaded 1m from bank	0	1.00
SI6.	Waterfowl	**absent/minor/major**	absent	0.67
SI7.	Fish population	**absent/possible/minor/major**	absent	1.00
SI8.	Pond density	number of ponds within 1km	2	1.00
SI9.	Terrestrial habitat	**good/moderate/poor/isolated**	isolated	0.33
SI10.	Macrophyte cover	%	0	0.31

***Note**: Guidance in undertaking the HSI is available at www.narrs.org.uk.*
HSI calculation formulae adapted from Rob Oldham

HSI score = **0.30**

Pond suitability = **poor**

General description/notes/comments
A small sized pond with low macrophyte cover. No surveys for GCN required.

Survey results summary		
	Number of survey visits	0
***Note**: The* great crested newt mitigation guidelines *recommend that a minimum of **four** survey visits are required to determine likely absence, and **six** to assess population size class.*	**Presence or likely absence =**	**n/a**
***Note**: Only bottle-trapping and torch survey are considered suitable methods for assessing population size class.*	**Peak count =**	**0**
***Note:** Peak count is the maximum number of adult newts seen on one visit using one survey method.*	***Pond* population size class =**	**n/a**
© Liam Russell 2009		

Figure 6. The Greater Crested Newt suitability index score the small pond at 23a Hampton Road

Table 2 – PRA Summary (refer to Figure 4 for building layout).

Building no.	Type / use	Description	External features	Internal features	Value to roosting bats
1	House	Brick built with a cross gabled pitched cement tile roof in good condition and an attached garage with no roof void.	Roof is in good condition. No gaps under roof tiles seen.	Two roof voids. Void 1 - approximately 6m wide, 10m long, and 2m tall. Void 2 - 8m wide, 4m long, and 1.8m tall.	External: Negligible Internal: Negligible Overall: **Negligible**
Shed 1	Garden Shed	A wooden construction with a pitched roof.	Roof and walls in good condition.	Wooden floor storage space. No void present.	External: Negligible Internal: Negligible Overall: **Negligible**
Shed 2	Garden Shed	A wooden construction with a pitched roof.	Roof and walls in good condition.	Wooden floor storage space. No void present.	External: Negligible Internal: Negligible Overall: **Negligible**
Shed 3	Garden Shed	A wooden construction with a pitched roof.	Roof and walls in good condition.	Wooden floor storage space. No void present.	External: Negligible Internal: Negligible Overall: **Negligible**

Annex 3 – Lighting guidance - the impact of artificial light on bats

The following basic set of guidelines is summarized from the latest Guidance Note (08/18)[18] provides a concise checklist of points to consider with any lighting scheme:

- *Use professional lighting design engineers to model and predict light spill so that it can be avoided.*
- *Reduce light levels to the minimum necessary to meet legal and safety requirements.*
- *Reduce horizontal and upward/downward light spillage to the minimum achievable. The use of cowling, masks, louvers etc. and limiting the height of lighting columns may be important depending on the design of the lighting units. No bare bulbs. Lighting should only light the target area.*
- *Use non-reflective surfaces within the area to be lit to minimise indirect (reflected) spillage of light. The use of planting or other structures to add screening.*
- *Reduce the duration of lighting. The use of lighting 'curfews' can also be helpful - especially in the vicinity of bats roosts. For example, the emergence of bats, typically within the hour after sunset, may be disrupted (delayed) by raised light levels and this may result in a loss of feeding opportunities.*
- *Consider the type of light to be used and whether a different type or design may reduce potential impacts on bats and other wildlife. Narrow spectrum lighting with minimal UV emission should be used.*
- *Use 'screen planting' to limit light spill into dark areas.*
- *Use narrow spectrum light sources* to lower the range of species affected by lighting, as research has shown that spectral composition does impact biodiversity.
- *Use light sources that emit minimal ultra-violet light*
- *Avoid white and blue wavelengths of the light spectrum* to reduce insect attraction and where white light sources are required in order to manage the blue short wave length content they should be of a warm / neutral colour temperature <4,200 kelvin.

For more details, please refer to:

https://www.theilp.org.uk/documents/guidance-note-8-bats-and-artificial-lighting/

http://www.bats.org.uk/pages/bats_and_lighting.html

http://www.batsandlighting.co.uk/index.html

[18] https://www.theilp.org.uk/documents/guidance-note-8-bats-and-artificial-lighting/

Annex 4 – Gardening for bats.

GARDENING FOR BATS

All sixteen species of bats in the UK eat insects, and need a good supply of these from spring through to the autumn. By growing flowers attractive to a range of insects, our gardens can become important feeding stations for bats, birds and other wildlife.

Many plants depend on insects

We grow flowers in our gardens for our own enjoyment. But colour and perfume are really the plants' way of advertising themselves to insects. Sweet nectar and protein-rich pollen are bait to encourage insects to visit. In return, pollen is carried from one flower to another on their bodies so the flowers are fertilised.

Bats need insects

Flying uses a lot of energy, so bats have huge appetites. All our UK bats eat insects. Five species, including the long-eared bat, prefer moths, but most bats rely more heavily on flies as food than any other insect group. Especially important are craneflies, and a range of midge families and their relatives. Pipistrelles, the bats most likely to visit your garden, depend on catching very large numbers of tiny insects, some of which are pests.

Flower shape and insect tongues

Flowers with long narrow petal tubes, such as evening primrose and honeysuckle, are visited by moths and butterflies. Only their long tongues can reach deep down to the hidden nectar.
Short-tongued insects include many families of flies and some moths. They can only reach nectar in flowers with short florets.
By planting a mixture of flowering plants, vegetables, trees and shrubs, you can encourage a diversity of insects to drop in and refuel.

Follow these general rules

? Plant flowers varying not only in colour and fragrance, but also in shape.
? Daisies and daisy-like flowers are open with a mass of shallow florets.
? Pale flowers are more easily seen in poor light.
? Single flowers have more nectar than double varieties
? Native wild flowers or those closely related are most useful
? Flowers with landing platforms and short florets such as daisy or carrot family attract many insects.
? Many flowering vegetables such as beans and courgettes are also good for insects.

Plant trees and shrubs

These are important in providing

- food for insect larvae
- food for adult insects
- shelter for flying insects
- roosting opportunities for bats.

In a small garden, choose trees that can be coppiced – cut down to the ground every few years - to allow new shoots to spring from the base. Young shoots and leaves will support leaf-eating insects, even if they do not produce flowers. Hawthorn and elder are useful small trees.

Create a wet area

A pond, a marshy area, even a half-tub made into a mini-pond can attract insects. Many of the tiny flies favoured by bats start life in water as aquatic larvae.

Say NO to insecticides

Chemical pesticides kill natural predators and so may do more harm than good. They reduce bats' insect prey, and surviving insects carry traces of poison.

Encourage natural predators

Hoverflies, wasps, ladybirds, lacewings, ground beetles and centipedes are the gardener's friends. As natural predators they help keep the balance, eating many pests.
? Allow some weeds to grow to provide ground cover for natural predators
? Grow favourites of hoverflies and other predators close to the flowers and vegetables that tend to become infested.
? Leave hollow-stemmed plants to overwinter as shelter for ladybirds.
? Leave heaps of dead leaves and brushwood undisturbed for hedgehogs.
? Most garden birds are effective predators. Provide them with regular food and water.

Prevent a CATastrophe

Many bats and other small mammals fall prey to Britain's most dangerous four-legged predator, the domestic cat. Cats do not need to stay out all night. Bring you cat in an hour before sunset so bats can emerge undisturbed.
(Send for our special leaflet on cats and bats.)

The Bat Conservation Trust, 15 Cloisters House
8 Battersea Park Road, London SW8 4BG
Tel 0845 1300 228 Fax 020 7627 2628
enquiries@bats.org.uk www.bats.org.uk
Registered Charity no 1012361 Company limited by guarantee, registered in England no 271282
August 2004

Gardening for bats

Aim at having flowers in bloom through the year, including both annuals and herbaceous perennials.
Below are some suggestions, but this is by no means an exhaustive list. See what grows well in YOUR garden, and what seems most attractive to insects.
Flowering times are approximate, varying in different areas. Regular dead-heading extends flowering period in many flowers. A=annual, HA=hardy annual, HHA=half-hardy annual, P=perennial, W=wild flower,

Flowers for borders			
St John's Wort	*Hypericum*	P	March-
marigolds	*Calendula*	H/A	March – Oct.
aubretia	*a. deltoidea*	P	March-June
honesty	*Lunaria rediva*	HB	March
forget-me-not	*Myosotis sp.*	A/P	March - May
elephant ears	*Bergenia*	P	April
Wallflowers	*Erysimum*	B	April - June
Cranesbills	*Geranium sp*	P	May – Sept.
Yarrow	*Achillea*	P	May -
Poppies	*Papaver sp.*	A	May - July
Dames violet	*Hesperis matronalis*	P	May - August
Red Valerian	*Centranthus ruber*	P	May – Sept.
Poached egg plant	*Limnanthes*	HA	June – Aug.
Knapweed	*Centaurea nigra*	P	June- Sept.
Phacelia		HA	June – Sept.
Ox-eye daisy	*Leucanthemum vulgare*	P	June – Aug.
Evening primrose	*Oenothera biennis*	B	June-Sept.
Candytuft	*Iberis umbellata*	HA	June – Sept.
Sweet William	*Dianthus barbatus*	B	June - July
Blanket flowers	*Gaillardia*	P	June -
Verbena	*V.bonariensis*	HHA	June – Oct.
Scabious	*knautia arvensis*	P	July-Aug.
Night-scented stock	*matthiola bicornis*	HA	July-Aug
Pincushion flower	*Scabious sp.*	A/P	July – Sept.
Cherry pie	*heliotrope*	HHA	July – Oct.
Mexican aster	*Cosmos sp.*	A/P	July – Oct.
Cone flower	*Rudbeckia sp.*	A/P	August-Nov.
Mallow	*lavatera sp.*	P	August-Oct.
Michaelmas daisy	*Aster sp.*	P	August-Sept.
Ice plant 'Pink lady'	*Sedum spectabile*	P	Sept.
Herbs – both leaves and flowers are fragrant			
Fennel	*Foeniculum vulgare*		July – Sept.
Bergamot	*Monarda didyma*		June - Sept
Sweet Cicely	*Myrrhis odorata*		April - June
Hyssop	*Hyssopus officianlis*		July - Sept
Feverfew	*Tanacetum parthenium*		June – Sept.
Borage	*Borago officinalis*		May – Sept.

Rosemary	*Rosemary officinalis*	March - May
Lemon balm	*Melissa officinalis*	
Coriander	*Coprianum sativum*	June - August
Lavenders	*Lavendula sp.*	
Marjoram	*Origanum sp*	

Trees, shrubs and climbers important to insects		
Oak	*Quercus sp.*	large gardens only
Silver birch	*Betula pendula*	
Common alder	*Alnus glutinosa*	Suitable for coppicing
Hazel	*Corylus avellana*	Suitable for coppicing
Elder	*Sambucus nigra*	Small
Pussy willow	*Salix caprea*	Suitable for coppicing
Hawthorn	*Crataegus monogyna*	Suitable for coppicing
Honeysuckle	*Lonicera sp.*	grow a variety for succession.
Dog rose	*Rosa canina*	Climber
Bramble	*Rubus fruticosus*	Climber
Ivy	*hedera helix*	Climber
Buddleia	*Buddleia davidii*	shrub
Guelder rose	*Viburnum opulus*	shrub
Gorse	*Ulex sp.*	shrub

Plants for pond edges and marshy areas			
Purple loosestrife	*Lythrum salicaria*	W	June – Aug.
Meadow sweet	*Filipendula ulmaria*	W	June – Sept.
Lady's smock	*Cardamine pratensis*	W	April - June
Water mint	*mentha aquatica*	W	July – Sept.
Angelica	*Angelica sylvestris*	W	July – Sept
Hemp agrimony	*Eupatorium cannabinum*	W	July – Sept.
Marsh marigold	*Caltha palustris*	W	March – May
Creeping Jenny	*Lysimachia nummularia*	W	May - August
Fringed water lily	*Nymphoides peltata*	W	June – Sept.
Water forget-me-not	*Myosotis scorpioides*	W	June – Sept.

Allow part of your lawn to grow long in summer and cut in autumn, removing the clippings. Avoid using fertilizers.
Compost heaps are good producers of insects too.

Add a seat to watch your garden come to life!

Native Plant Species Recommended

Hedging/shrubs (60cm whips)	
Blackthorn	*Prunus spinosa*
Hawthorn	*Crataegus monogyna*
Common Dogwood	*Cornus sanguinea*
Guelder Rose	*Viburnum opulus*
Holly	*Ilex aquifolium*
Elder	*Sambucus nigra*
Field Maple	*Acer campestre*
Hazel	*Corylus avellana*
Spindle	*Euonymus europaeus*
Trees (regular standard size)	
Apple	*Malus spp.*
Cherry	*Prunus spp.*
Field Maple	Acer campestre
Hornbeam	*Carpinus betulus*
Rowan	*Sorbus aucuparia*
Wild Service	*Sorbus torminalis*
English Oak	*Quercus robur*
Shrubs/Herbacous plants (formal beds)	
Use species attractive to pollinators e.g bees, butterflies, moths. See this selection of RHS plants for pollinators: http://www.rhs.org.uk/Gardening/Sustainable-gardening/Plants-for-pollinators (see Appendix 4)	
Note – all specimens should be of British native stock from reputable suppliers.	